FACE INVESTIGATION

SUBJECT: Farmer Dies of Asphyxiation in Grain Bin

SUMMARY: A 72-year old male farmer (the victim) died after becoming engulfed in shelled corn inside a grain storage bin. The farmer had rented a 15,000 bushel grain bin at a nearby farm to store corn in, and the bin was nearly full at the time of the incident. The farmer had received an order for corn and was in the process of using a grain auger to fill a truck for delivery when the incident occurred. He was working alone, and there were no witnesses to the incident. It is assumed that he entered the bin through a door at the top of the bin by climbing a ladder attached to the outside of the bin. Apparently the victim had walked on the surface of the corn, and became engulfed in the corn. After a few hours, family members noticed his absence and began a search that ended when his body was found in the corn near the bottom of the bin. The body was removed from the storage bin, and the county coroner pronounced the victim dead at the scene. The Wisconsin FACE investigator concluded that, in order to prevent similar occurrences, employers/farmers should:

! **Ensure that life lines and harnesses are present and used at entrance points to confined spaces (e.g. grain storage bins) containing unstable materials.**

! **Ensure that a standby person is available when work is being performed in a confined space.**

! **Ensure that posted danger signs are adhered to.**

INTRODUCTION: On August 8, 1993, a 72-year-old male farmer died after being engulfed in corn in a grain storage bin. The Wisconsin FACE investigator was notified by the Wisconsin Department of Industry, Labor and Human Relations on August 13, 1993. On October 20, 1993, the WI FACE field investigator conducted an investigation of the incident. The incident was reviewed with family members of the victim, and the owner of the farm where the incident occurred. Photographs of the incident site were taken, and copies of the coroner's report and death certificate were obtained.

The victim had been associated with farming all of his life and was aware of the hazards related to grain storage bins. There was no written safety policy or safety program, but the victim often instructed family members never to enter a grain storage bin without a standby person or without using a rope that was anchored somewhere near the top hatch opening of the bin.

INVESTIGATION: The victim had rented a grain storage bin at a nearby farm that had a capacity of about 15,000 bushel. Approximately 13,500 bushels of shelled corn were stored in the bin at the time of the incident. On the day of the incident, the victim had received an order for corn and was in the process of using a grain auger installed in the concrete base of the bin, to load a portion of the corn onto a semi-tractor trailer truck for delivery. The victim was working alone and there were no witnesses to the incident.

The semi-tractor trailer truck had been positioned under the loading chute to receive the corn and the grain auger had been started. For reasons unknown at this time, the victim apparently climbed a ladder attached to the outside of the bin (25 feet) and entered the bin through a door at the top. After about three hours, the victim's family members noticed his absence and began a local search. After checking with nearby neighbors and the area around the storage bin, the family members finally decided the victim had to be in the bin. In order to find the victim, a side door located at the base of the bin was forced open to remove the shelled corn and look for the victim. The body was found about three feet from the bottom of the bin near the center. The county coroner pronounced the victim dead at the scene.

CAUSE OF DEATH: The death certificate listed the cause of death as compression asphyxia.

RECOMMENDATIONS/DISCUSSION:

Recommendation #1: Employers/farmers should ensure that life lines and harnesses are present and used at entrance points to confined spaces (e.g. grain storage bins) containing unstable materials.

Discussion: Life lines and harnesses should be present at the entrance(s) of confined spaces containing unstable materials (e.g., shelled corn, beans, sawdust, etc.), and should be used by all persons entering the confined space. If these are not provided by the manufacturer they should be installed by the user prior to entry into the confined space. A life line and harness might have prevented this fatality.

Recommendation #2: Employers/farmers should ensure that a standby person is available when work is being performed in a confined space.

Discussion: A standby person stationed outside of confined spaces containing unstable materials should maintain constant communication with the worker inside the area. If visual contact cannot be maintained, the standby person should at least maintain voice contact. The use of a standby person would have greatly reduced the amount of time before rescue efforts began and may have prevented this fatality.

Recommendation #3: Employers/farmers should ensure that posted danger signs are adhered to.

Discussion: The door providing access into the interior of the storage bin was posted with a legible danger sign. The sign contained examples of dangers within the bin and the subsequent recommendations for safe entry into the bin. Personnel entering grain storage bins should read and follow the recommendations as listed.